

NANDA DEVI NATIONAL PARK : The Home Of Several Endangered Mammals And Birds

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A cup-shaped valley surrounded by lofty peaks in the heart of the Himalaya, the 800 km² sanctuary is the home of several endangered species of mammals and birds

THE existing literature reveals that the first attempt to enter the 'Nanda Devi Sanctuary' was made by W. W. Graham in 1883. He could descend only up to a point where the Trisul Nullah feeds the Rishi Ganga. Now this area is known as 'Outer Sanctuary' or the lower Rishi Gorge. Since then, it has been a cherished dream of mountaineers all over the world to descend into the sacred Nanda Devi Sanctuary and reach its base. After more than 50 years of successive trials and failures by a number of expeditions from various countries, it was Eric Shipton and H. W. Tilman who pioneered a way into it in 1934 by negotiating one of the world's formidable paths. These two extraordinary travellers of the unexplored world also called the Nanda Sanctuary as 'Valley of The Lost Horizon'. During the last two decades so, the area has attracted many mountaineers, naturalists, wildlifers, ornithologists, botanists, zoologists and trekkers from several countries. Recently (6th November, 1982), the area was declared as a National Park (The Nanda Devi National Park). Presently, the area is one of the twelve 'Proposed Biosphere Reserves' of the country.

Accessibility

The park area or the Rishi Gorge remains under a thick carpet of snow during winter and hence it is accessible only for a limited period of about five months, i.e., from June to October. The grazing meadows emerge from underneath and attract the herbivora during this period.

To reach the park from Delhi, one has to go via Rishikesh to Joshimath, Tapovan and Lata which is the last

motor link for the Park. Lata village is the last link with the outer world.

In the park area, there is only one main trek which is popularly called 'The Nanda Devi Trek' and is one of the world's toughest, if not the toughest. There are only two entry points, viz., one at the point of the confluence of the rivers Rishi Ganga and Dhaul Ganga in west and the other at Lata road side in north-west of the park. Both of these treks meet



Fig. 1. South face of the Changbang Peak (6864 m) and a part of the Kalanka Peak (6931 m)

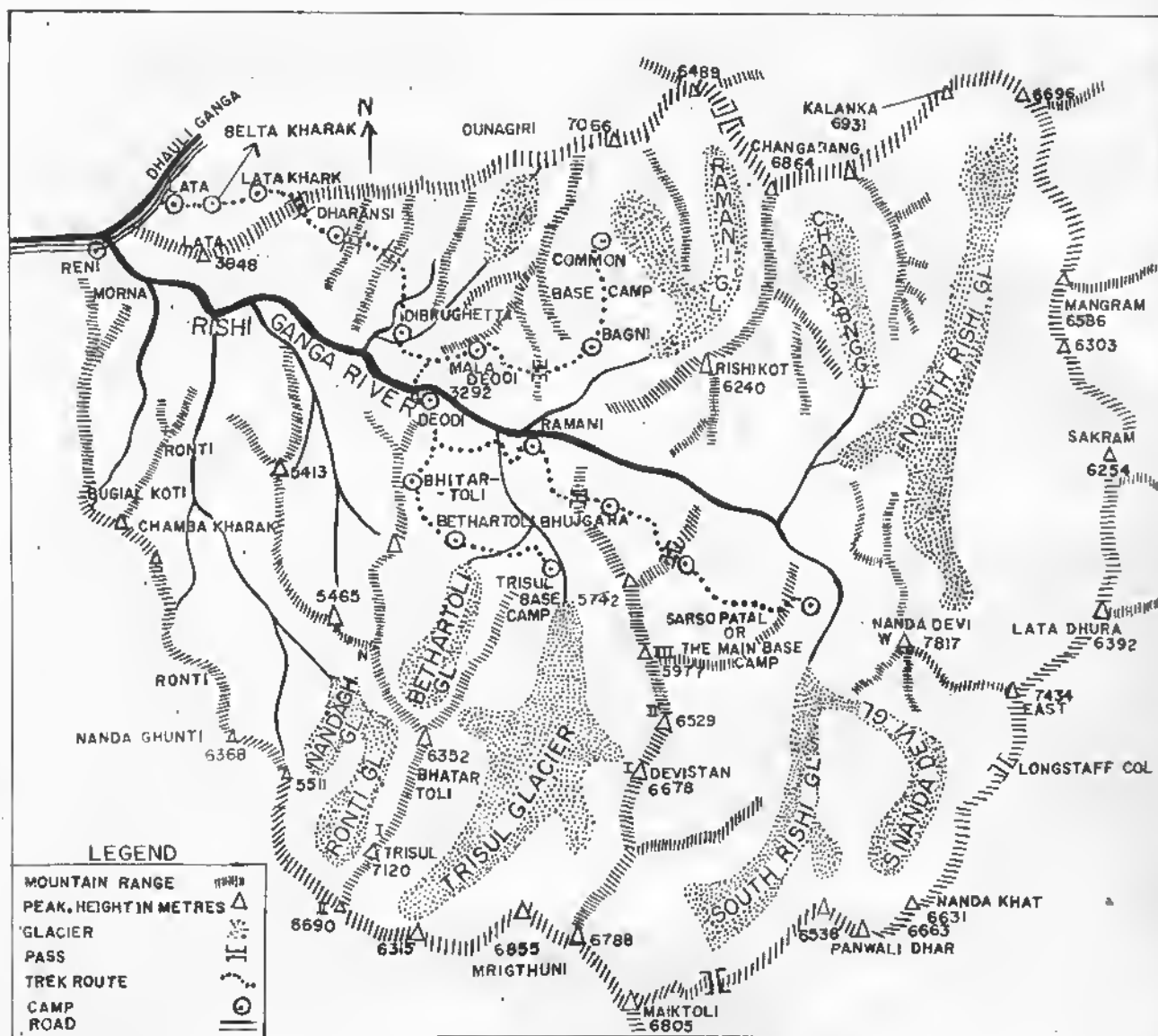


Fig. 2. Map of Nanda Devi National Park

at Dibrugheta (the fourth camp site along the trek) and form the main trek which leads to the world's fascinating wilderness, i.e., the upper Rishi Gorge. The trek from the former and the older entry point in the west is though easier, altitudinally speaking, but entails more risk specially shortly before joining the latter (NW entry point) at Dibrugheta, and hence mostly avoided. Beyond Dibrugheta the trek leads via Deodi, Ramani, Bhujgarh, Patalkhan or Tilchauni to Sarsopatal or the Nanda Devi Base Camp. The various diversions which lead to the base camps of different peaks, viz., Duna-

giri, Changbang, Kalanka and Trisul, of the main trek are also shown in the Fig. 1 (map). Fig. 2 has been prepared especially to give an idea about the magnitude of physical works and skill required to reach the Nanda Devi Base Camp. At several places, as shown in Fig. 2 by dark oblique lines, along the trek one needs (and is always better to have) the basic knowledge of mountaineering and has to fix the rope for a sure and safe reach.

The park area

The Nanda Devi National Park, an area of ca 800 km², is geogra-

phically situated between 30°16'-30°32' N latitudes and 79°44'-80°02' E longitudes. It covers an altitude varying from ca 2100 m in the west to ca 7817 m in the east. The park is a cup-shaped valley, which is surrounded by almost seventy white ethereal peaks appearing like crystallised clouds in the deep blue sky. Of these, some named and more popular peaks are : Dunagiri (7066m), Changabang (6864m), Kalanka (6931m), Nanda Devi East (7434m), Nanda Devi West (7817 m, the highest peak of the Garhwal Region), Nanda Khat (6631m), Devstan (6678m), Maik-



Fig. 3. (Left) *Primula macrophylla* Wall ex. Lehm variety *Atrosanguinea* (Lodd); (Right) *Iris kumaonensis* wall ex. D. Don



Fig. 4. (Left) *Stellera chamejasme* Linnaeus; (Right) *Nomocharis oxypetala* (Royle) Balf.



Fig. 5. A view of the North Upper Rishi Gorge as seen from Patakhani Camp

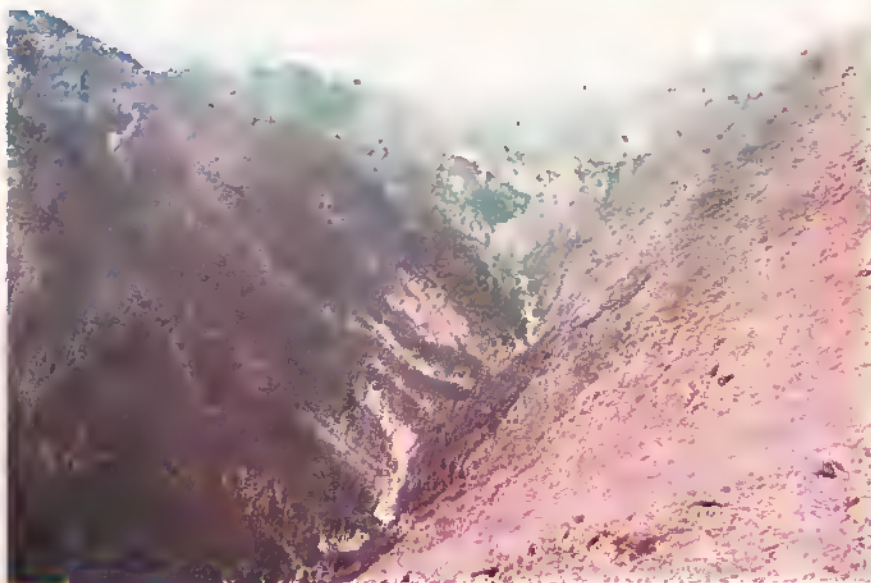


Fig. 6. A view of Lower Rishi Gorge as seen from Bina-ki-Dhar/Pass (Note : North facing slopes are forested)

tol (6805 m), Mrigthuni (6855 m), Trisul (7120 m), Bethartoli (6352 m). These peaks form rim of the cup or boundary of the park (Fig. 1).

On the upper-half inner surface of the cup-shaped park, these high peaks embrace the major glacier system which consists of Ramani Glacier (Gl.), Changbang Gl. and North Rishi Gl. in the north and Nanda Gunti Gl., Ronti Gl., Bethartoli Gl., Trisul Gl., South Rishi Gl., and South Nanda Devi Gl. in the south. This glacier system is the permanent and continuous source of Rishi Ganga water.

Topographically, the park area or the Rishi Gorge can be divided into

two sectors, viz., the Upper Rishi Gorge (The Inner Sanctuary) and the Lower Rishi Gorge (The Outer Sanctuary). The former is mostly a glacial zone intermingled with numerous alpine meadows, whereas the latter is largely a thickly forested zone. The north facing slopes are more forested than the south facing slopes and conform to the general characteristic of the northern hemisphere.

The fauna

The park is very rich in animal life and provides habitat (home) to several endangered and threatened

species of mammals and birds. The authors have been working in the Park since July 1981 for a Man and Biosphere (MAB) research project on "Status survey of endangered and threatened species of mammals and birds at Nanda Devi National Park" under the leadership of B.S. Lamba, the then Joint Director of the Zoological Survey of India, Dehra Dun (presently, J. D., Department of Environment, New Delhi). During the period of their more than 100 days stay in the park (1981-83), the authors have so far enumerated as many as 15 species of mammals and 80 species of birds. The following endangered and threatened spe-

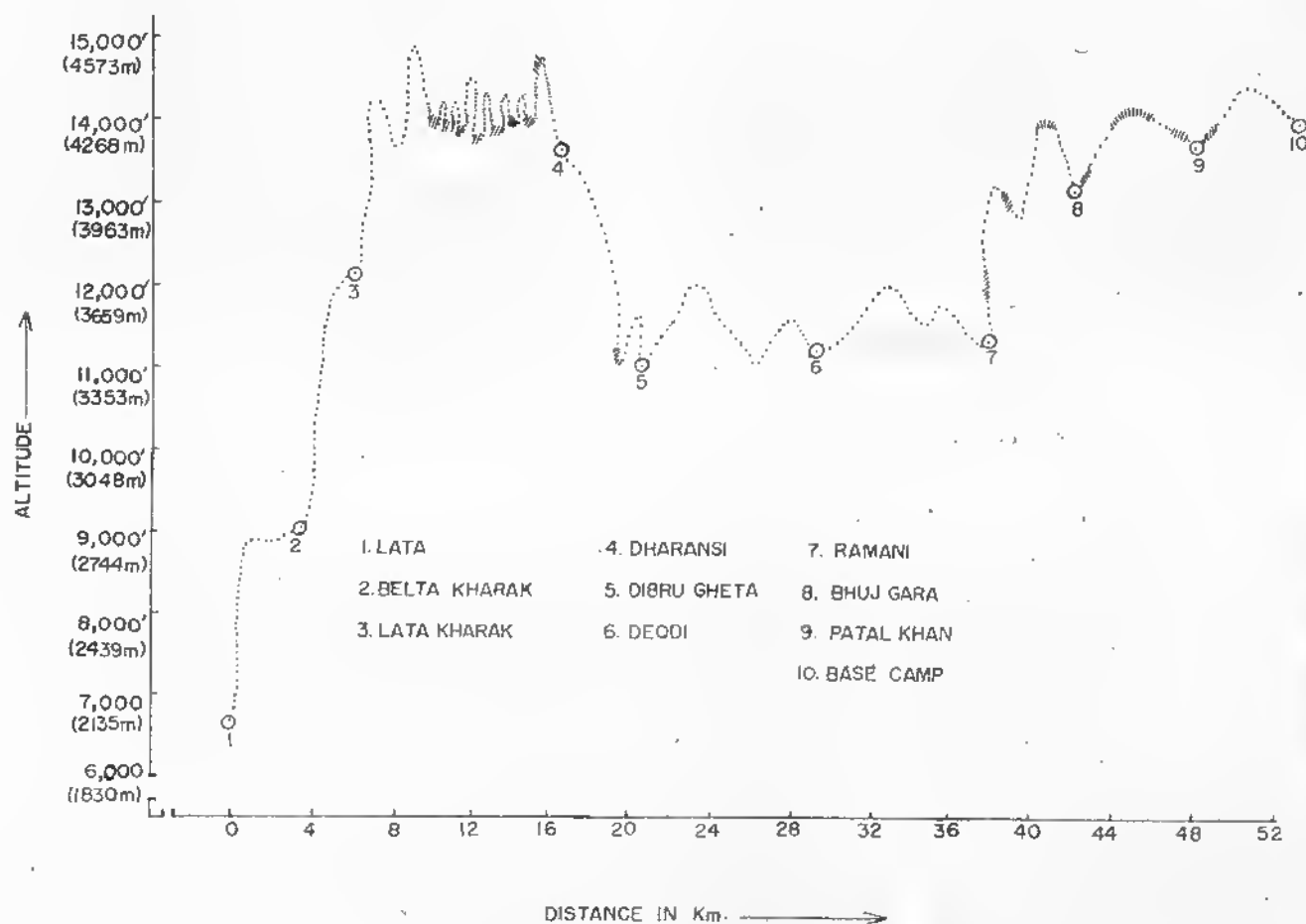


Fig. 7. Nanda Devi Trek : A graphic Representation

cies of mammals and birds are known to exist in the park.

Mammals

1. The snow leopard or ounce (*Panthera uncia*). It haunts at the higher altitudes (ca 3700m-4700m). During winter it follows the general downward migration of animals. It is very difficult to observe because of its nocturnal habit. No direct observation has so far been made by the authors. However, a total ban on the trade of its fur has been imposed by the International Fur Trade Federation.

2. The brown bear (*Ursus arctos*). The bare open peaks above the tree line are the usual haunt of the animal. Emerging from their winter sleep in the spring, they follow the melting snows up to their perpetual level. It is endangered on account of its excessive hunting.

3. The Himalayan black bear (*Selenarctos thibetanus*). It inhabits the steep forested hills of the park. During summer it may be found near the limits of tree line at ca 3050m-3600m altitude but in winter most of them come down to the lower valleys at 1525m and even lower. It is difficult to observe on account of its nocturnal habit. However, plenty of footprints have been recorded at and around Dibrugetta and Deodi in the park. At present it is threatened due to excessive hunting in the past.

4. The musk deer (*Moschus moschiferus*). It is generally found within Birch (*Betula utilis*) forest above the zone of Pines. At times it comes down to lower levels, but always conceals in thick cover and hence difficult to observe. Individuals and females with fawns have been observed at and around Dibrugetta, Deodi and Ramani camp sites in the park. Presently, it is endangered due to a large-scale commercial exploitation of 'Musk', which is secreted by the abdominal gland of the males.



Fig. 8. Himalayan bearded vulture or Lammergeier, *Gypaetus barbatus aureus*, flying over Dharansi area in the park

5. The Himalayan tahr (*Hemitragus jemlahicus*). Of all the wild goats, it perhaps selects the most inaccessible ground to live in at an altitude ranging from ca 3000m to 4000m. Comparatively, it is easier to observe when it comes out to graze in open clearings during mornings and evenings. Small parties of males, females with young and individuals were sighted around Dharansi. It is endangered because of excessive hunting for its flesh and skin.

6. The bharal or blue sheep (*Pseudois nayaur*). It is found between the tree line and the snow line. It is sure to be seen in the upper Rishi Gorge, when it comes out to graze on alpine meadows in the forenoons and afternoons. Individuals and herds of 30-60 individuals have been observed. It is endangered for its distributional range, but threatened for the park, on account of excessive hunting for its flesh and skin.

7. The serow (*Capricornis sumatraensis*). It prefers an altitude ranging from 1850m to 3100 m of thickly wooded gorges. It can be seen in the mornings and even-

ings when they come out to graze on the rank herbage of more open slopes. We have not observed them, but enquiries made from local people confirm their existence, in fairly good numbers, in the lower Rishi Gorge. They are endangered because of excessive hunting for their flesh and skin.

Birds

1. Himalayan golden eagle (*Aquila chrysaetos daphanea*). It is a resident of Himalayas, occurs above 1850 m to 5500m, was observed twice near Lata Kharak (3750 m) and Dharansi (4200m). Endangered.

2. Eastern steppe eagle (*Aquila rapax nipalensis*). Winter visitor. Stays at a wider altitudinal range from 305m to 7930m in the Himalayas. It was sighted only once near Lata Kharak on 17th August, 1981. A threatened species.

3. Black eagle (*Ictinaetus malayaensis perniger*). Resides over a wide altitudinal range from 305m to 3355m in the Himalayas. Occasionally seen flying near Belta Kharak (2700 m). A threatened species.

4. Himalayan bearded vulture or lammergeir (*Gypaetus barbatus*

aureus). Himalayan resident; 385 m to 7500m; frequently sighted throughout the park. An endangered species.

5. Himalayan snowcock (*Tetra-gallus himalayensis himalayensis*). Western Himalayas resident; 4000m-5000m. During winter, migrates down to 2100m; observed and heard small flocks of 3-20 at and around various base camps in the park. A threatened species.

6. Western tragopan or western horned pheasant (*Tragopan melanocephalus*). Although a Himalayan resident, it has not been observed by the authors. The only possible habitat is the dense forested area below Dharansi. An endangered species on account of excessive hunting for its flesh.

7. Himalayan monal pheasant or impeyan (*Lophophorous impejanus*). Resident of Himalayas, occurs between 2600m and 5000m. Individuals, pairs and families have been flushed and heard on steep grassy slopes and cliffs. It is endangered due to excessive hunting for flesh and the beautiful crest of male birds.

8. Koklas pheasant (*Pucrasia macrolopha macrolopha*). Resides between 1500m and 4000m in the Himalayas. Often flushed and heard in forested valleys of the park at altitudes 2700m-3450m. Endangered because of excessive hunting for its flesh.

As far as invertebrate fauna, including insects, of the park is concerned there is no published record. If the richness of flora is any indication of the insect life, the entomological component of the fauna should be tremendous. Therefore, it is hoped that the study of invertebrate fauna will be given the top priority in studies to be undertaken in the park.

The flora

While dealing with fauna, it would not be out of place to mention here

the equally rich and important flora of the park. More than 200 species of plants are known to exist in the park. Of them, about 15 species are of rare plants; (e.g., *Aconitum* spp., *Circeaster agrestis*, *Epipogium aphyllum*, *Listera* sp., *Mec-nopsis aculeata*, *Nardostachys granai-flora*, *Orchis latifolia*, *Podophyllum hexandrum*, *Saussurea obvallata*, etc., are known to occur in and around the park area.

Altitude wise, the vegetation of the park can be classified broadly into three categories : 1. Sub-alpine forest, 2. Moist alpine scrub, and 3. Alpine meadows.

The sub-alpine forest comprises of three different canopies : Upper, Middle and Lower or the ground cover. The upper canopy is formed of *Abies pindrow*, *A. spectabilis*, *Rhododendron campanulatum* and *Betula utilis* tree species, the middle canopy is of comparatively small tree-like shrubs *Rosa*, *Viburnum* and *Jasminum*, etc., and the ground cover is composed of various herbs and grass species. This forest type is generally met with in the lower Rishi Gorge at an altitude ca 3500m and is restricted only upto Ranani in east.

The moist alpine scrub forest consists of several pure stands of *Betula* and *Rhododendron* species.

The alpine meadows lack tree species but are composed of numerous shrubby plants (e.g., *Rhododendron anthopogon*, *Junipers* and *Salix* species), herbaceous plants (e.g., *Aconitum*, *Cynanthus* and *Polygonum* species) and grasses (e.g., *Danthonia*, *Festuca* and *Poa* species).

It may be mentioned here that the figures given here for the faunal and floral species of the park are by no means exhaustive or constant and are likely to be augmented further by observations in future.

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(From Nanda Devi Sanctuary)